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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,783	09/30/2003	Frank Eliot Levine	AUS920030486US1	6547
35525	7590	05/14/2007		
IBM CORP (YA) C/O YEE & ASSOCIATES PC P.O. BOX 802333 DALLAS, TX 75380			EXAMINER MITCHELL, JASON D	
			ART UNIT 2193	PAPER NUMBER
			MAIL DATE 05/14/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/675,783

Applicant(s)

LEVINE ET AL.

Examiner

Jason Mitchell

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date See Continuation Sheet.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Dates  
:3/27/07;1/22/07;12/04/06;11/02/06;10/02/06;8/18/06;8/03/06;6/26/06;6/23/06;6/05/06;5/26/06;4/25/06;3/27/06;1/30/06;1/9/06  
;7/1/05;9/30/03.

### DETAILED ACTION

1. Claims 1-15 are pending in this application.

#### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claims 6-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

4. **Claims 6-10** are directed to "A data processing system ... comprising." means for performing various functionalities. These means are not necessarily associated with any hardware aspect of a data processing system, thus represent only software per se.

Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality

Art Unit: 2193

to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

5. **Claims 11-15** are not limited to tangible embodiments. In view of Applicant's disclosure, specification page 64 in the last paragraph, the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., "recordable-type media, such as a floppy disk") and intangible embodiments (e.g., transmission-type media, such as ... radio frequency and light wave transmissions"). As such, the claim is not limited to statutory subject matter and is therefore non-statutory.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,966,057 to Lueh (Lueh) in view of US 2003/0225917 to Partamian et al. (Partamian).**

8. **Regarding Claims 1, 6 and 11:** Lueh discloses profiling an application in a data processing system, the method comprising:

detecting execution of an instruction associated with an indicator, wherein the instruction is located in a routine (col. 7, lines 9-16 "instrumentation code passes necessary information to a run-time library function");

determining whether the instruction is 'hot' (col. 4, lines 60-65 "methods that are identified as hot methods based on the collected profiling information"); and

responsive to the instruction having been identified as 'hot', generating an interrupt to pass control to a monitoring program (col. 9, lines 14-35 "The execution 640 includes ... executing an event hook function for an event corresponding to the field watch"; col. 7, lines 5-8 "To support the watch points for fields, the JIT compiler interrupts the execution ... to call the event hook function"), wherein the monitoring program identifies information regarding a caller of a routine (col. 5, lines 11-16 "the JIT compiler provides a mechanism to identify and access the caller's frame context, referred to as unwinding stack frame.").

9. Lueh does not explicitly disclose determining whether the instruction is 'hot' comprises determining whether the instruction has been executed more often than a threshold value.

10. Partamian teaches method of determining whether an instruction is 'hot' comprising determining whether the instruction has been executed more often than a threshold value (par. [0018] "JVM 1120 includes a threshold to determine whether a method is hot or not.")

11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to compare the profiling information collected by Lueh's "counter 345" (see, col. 4, lines 60-65) to a threshold value, as taught by Partamian (par. [0018]) as an obvious and commonly used method to identify hot methods for recompilation (Lueh col. 4, lines 60-65 "re-compiles methods that are identified as hot methods").

12. **Regarding Claims 2, 7 and 12:** The rejections of claims 1, 6 and 11 are incorporated, respectively; further Lueh discloses:

examining a call stack upon generation of the interrupt (col. 5, lines 11-16 "unwinding stack frame."); and

identifying a caller of the routine from an examination of the call stack (col. 5, lines 11-16 "the JIT compiler provides a mechanism to identify and access the caller's frame context").

13. **Regarding Claims 3, 8 and 13:** The rejections of claims 1, 6 and 11 are incorporated, respectively; further Lueh discloses the information includes at least one of a caller of the routine (col. 5, lines 11-16 "the JIT compiler provides a mechanism to identify and access the caller's frame context") and a number of instructions executed in the routine.

14. **Regarding Claims 4, 9 and 14:** The rejections of claims 1, 6 and 11 are incorporated, respectively; further Lueh discloses:

generating a call graph from the information (col. 5, lines 11-16 "unwinding stack frame.").

15. **Regarding Claims 5, 10 and 15:** The rejections of claims 1, 6 and 11 are incorporated, respectively; further Lueh discloses:

selecting the caller of the routine for analysis based on the information gathered by the monitoring program (col. 5, lines 14-15 "The stack unwinding process starts with a frame context of the caller").

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

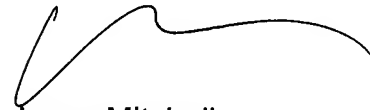
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Mitchell whose telephone number is (571) 272-3728. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2193

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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5/9/07



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